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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,582	06/26/2003	Michael Norman Day	AUS920020705US1	5112

7590
Gregory W. Carr
670 Founders Square
900 Jackson Street
Dallas, TX 75202

07/11/2007

EXAMINER

UNELUS, ERNEST

ART UNIT	PAPER NUMBER
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2181

MAIL DATE	DELIVERY MODE
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07/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/606,582	Applicant(s) DAY ET AL.	
	Examiner Ernest Unelus	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/23/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

RESPONSE TO AMENDMENT

Claim rejections based on prior art

1. Applicant's arguments filed 04/23/2007 with respect to claims 20-35 have been fully considered but are moot in view of the new ground(s) of rejection.

INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in 37 C.F.R. 1.63.

OBJECTIONS TO THE DRAWING

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. The applicants' drawing doesn't specifically disclose an item number for the PU, as claimed. The PU must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be

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renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

REJECTIONS NOT BASED ON PRIOR ART

Claim Rejections - 35 USC § 101

4a. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4b. **Claims 28-35**, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims disclose a computer program. Claims to computer-related inventions that are clearly nonstatutory fall into the same general categories as nonstatutory claims in other arts, namely natural phenomena such as magnetism, and abstract ideas or laws of nature which constitute "descriptive material." Abstract ideas, Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759, or the mere manipulation of abstract ideas, Schrader, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, are not patentable.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or

expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. **The preamble of claim 28 should state "a computer-readable storage medium".** The remaining claims 29-35 are also rejected by virtue of their dependencies on the independent claims

Claim Rejections - 35 USC § 112

4c. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4d. **Claims 20-35** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. **The applicant's specification doesn't clearly illustrate "incrementing a write channel count upon receipt of outbound data from the PU by the ED". Fig. 2 of the present invention doesn't show the ED having or consist of a counter to be increment. The applicant's specification doesn't disclose the ED's counter.** The remaining claims 21-27 and 29-35 are also rejected by virtue of their dependencies on the independent claims

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 20-35**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (US pat. 6,408,354) in view of Stuber et al. (US pat. 6,801,972).

7. As per **claims 20 and 28**, Young discloses “A method for tracking communications between a processing unit (PU) (**bi-directional data channel 303 of fig. 3, as discloses in col. 7, line 12**) and an external device (ED) (**SCSI module 230 of fig. 3, as discloses in col. 7, line 14**), comprising:

receiving, by the PU, data from the ED, into a read register (**bi-directional data buffer 340 of fig. 3**) (see col. 7, lines 56-59, which discloses, “a first counter is incremented as each unit of data is transferred to bi-directional buffer 340”. See fig. 3, which shows data is being transferring from the SCSI module to the buffer. See col. 5, lines 19-26 for further detail);

sending, by the PU, data to the ED, from a write register (**bi-directional data buffer 345 of fig. 3**) (see col. 7, lines 17-18, which discloses, **“at the same time that data is being received from SCSI bus 120 by buffer 345”**);

incrementing a read channel count upon receipt of inbound data from the ED by the PU (see fig. 3 and col. 7, lines 56-59, which discloses, **“a first counter is incremented as each unit of data is transferred to bi-directional buffer 340”** ;

issuing a read channel instruction to decrement the read channel count upon processing of received inbound data by the PU (see col. 7, lines 59-60, which discloses, **“and decremented as each unit of data is removed from bi-directional buffer 340”**);

incrementing a write channel count upon receipt of outbound data from the PU by the ED (see col. 7, lines 62-63, which discloses, **“A second counter is incremented as each unit of data is transferred to bi-directional buffer 345”**);

issuing a write channel instruction to decrement the write channel count upon transmission by the PU of the outbound data to the ED (see col. 7, lines 63-64, which discloses, **“and decrement as each unit of data is removed from bi-directional buffer”**. See also col. 7, lines 17-18, which discloses, **“at the same time that data is being received from SCSI bus 120 by buffer 345”**);

accessing the read channel count (see col. 7, lines 56-59 for accessing the read channel count (the first counter)); and

comparing the accessed read channel count with a predetermined range to determine whether the PU has received data from the ED (see col. 7, line 66 to col. 8, line 4, which discloses **“Thus, when direction controller 360 receives a request for use of one of the bi-**

directional data channels, controller 360 examines the value of each of the counters to determine whether a channel is available. If a channel is available, controller 360 configures direction multiplexer 361 appropriately”).

Young fail to specifically disclose that a FIFO or a buffer is a register.

Stuber discloses a FIFO or a buffer is a register (See col. 6, lines 10-15, which discloses **“FIFO 52 is a register that stores commands for retrieval on a first-in, first-out basis. Counter 62 maintains a count of the number of commands in FIFO 52. The count in counter 62 is incremented with each new command written into command queue 52 and is decremented with each command issued to device controller 50”).**

Young (US pat. 6,408,354) and Stuber et al. (US pat. 6,801,972) are analogous art because they are from the same field of endeavor of using a counter and a FIFO to track data between a processing unit and external device.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify a parallel host adapter that interfaces two I/O buses includes at least two data channels that can be used concurrently as a receive data channel and a send data channel, or alternatively, in one embodiment, as two receive channels as described by Young and a monitoring the slave device's behavior to bus transactions so that the slave device can either stall or split transactions, depending on the type of transaction, in the event it is in a shut down or initializing state as taught by Stuber.

The motivation for doing so would have been because Stuber teaches, **“Consequently, prior to the present invention, it was common to operate the slave device to stall the bus if its fed device shuts down. This solution stalled the entire bus system, rendering it**

unavailable to all users. The present invention is directed to a technique whereby non-locked transfer commands received when the fed device is shut down and during slave device re-initialization are split, rather than stalled” (see col. 5, lines 53-57).

Therefore, it would have been obvious to combine Stuber et al. (US pat. 6,801,972) with Young (US pat. 6,408,354) for the benefit of creating the method to obtain the invention as specified in claims 20 and 35.

8. As per **claims 21 and 29**, the combination of Young and Stuber discloses “the method as recited in claim 20” [See rejection to claim 20 above], Young further discloses, comprising associating an active channel with the read register and the write register (see col. 7, line 66 to col. 8, line 4).

9. As per **claims 22 and 30**, the combination of Young and Stuber discloses “the method as recited in claim 21” [See rejection to claim 21 above], Young further discloses wherein issuing a write channel instruction further comprises writing data externally to the PU (see col. 7, lines 63-64 and col. 7, lines 17-18).

10. As per **claims 23 and 31**, the combination of Young and Stuber discloses “the method as recited in claim 21” [See rejection to claim 21 above], Young further discloses wherein issuing a write channel instruction further comprises writing data to an internal register of the PU (see col. 7, lines 63-64 and col. 7, lines 17-18).

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11. As per **claims 24 and 32**, the combination of Young and Stuber discloses “the method as recited in claim 21” [See rejection to claim 21 above], Young further discloses wherein issuing a read channel instruction further comprises returning read data to a PU dataflow (see col. 7, line 65 to col. 8, line 4).

12. As per **claims 25 and 33**, the combination of Young and Stuber discloses “the method as recited in claim 20” [See rejection to claim 20 above], Young further discloses, comprising associating a passive channel with the read register and the write register (see fig. 2, which discloses a connection, such as a passive channel, between the FIFOs 240 and 245).

13. As per **claims 26 and 34**, the combination of Young and Stuber discloses “the method as recited in claim 25” [See rejection to claim 25 above], Young further discloses wherein issuing a write channel instruction further comprises storing write data locally (storing in the buffer 345) for an external read operation (see col. 7, lines 17-18, which discloses, “at the same time that data is being received from SCSI bus 120 by buffer 345”).

14. As per **claims 27 and 35**, the combination of Young and Stuber discloses “the method as recited in claim 25” [See rejection to claim 25 above], Young further discloses wherein issuing a read channel instruction further comprises returning read data to a PU dataflow (see col. 7, lines 14-20).

RELEVANT ART CITED BY THE EXAMINER

15. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

The following reference teaches execution of a method of ascertaining that a count indication returned is within a predetermined range.

U.S. PATENT NUMBER

US 2003/0117176

US 7,035,956

US 6,738,881

CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

16. The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

17. Per the instant office action, claims 20-35 have received a final action on the merits.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the

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THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

b. DIRECTION OF FUTURE CORRESPONDENCES

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is (571) 272-8596. The examiner can normally be reached on Monday to Friday 9:00 AM to 5:00 PM.

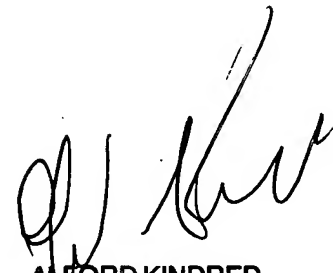
IMPORTANT NOTE

19. If attempts to reach the above noted Examiner by telephone is unsuccessful, the Examiner's supervisor, Mr. Alford Kindred, can be reached at the following telephone number:
Area Code (571) 272-4037.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 03, 2007

Ernest Unelus
Examiner,
Art Unit 2181



ALFORD KINDRED
PRIMARY EXAMINER